

In the United States Patent and Trademark Office

Serial Number: 10/728779
Application. Filed: December 8, 2003
Applicant: Kia Silverbrook
Application Title: HEAT DISSIPATION WITHIN THERMAL INK JET PRINTHEAD
Examiner/GAU: Jason S Uhlenhake 2853
Dated: March 30, 2007
At: Balmain, NSW
Docket No. MTB14US

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REPLY

Commissioner for Patents
Washington, District of Columbia 20231

Dear Sir:

The Applicant thanks the Examiner for the Office Action dated February 23, 2007.

Claim Rejections – 35 USC 103(a)

The Applicant contests the Examiner's reasoning that the skilled person would have been motivated to combine the disclosures of Kubby and Agnastopoulos.

Kubby clearly teaches a suspended heater element which is *perpendicular* to the plane of the nozzle plate (see Figure 5). A problem with Kubby's arrangement is that ink droplets would be ejected at a skewed angle relative to the nozzle plate. This problem is avoided in the present invention, because the suspended cantilever beam heater element is arranged *parallel* with the nozzle plate.

Kubby evidently had it in mind that his perpendicular arrangement would not impede ink flow through the nozzle, but this is at the expense of skewed ink ejection. However, the present Applicant has understood that ink flow is not compromised if suspended heater elements are configured appropriately.

There is nothing within the disclosure of Kubby teaching the skilled person to arrange a suspended heater element (having both faces in contact with ink) as defined in the Applicant's claims. However, the Examiner considers that Agnastopoulos provides the skilled person with the necessary motivation.

The Applicant disagrees because Agnastopoulos teaches an entirely different means for ejecting ink. Whereas the present invention and Kubby use thermal actuation to generate a bubble inside the nozzle chamber, which forces ink from the nozzle (bubblejet actuation), Agnastopoulos relies entirely on reducing surface tension in a meniscus pinned across the nozzle opening. There is no bubblejet actuation whatsoever in Agnastopoulos.